AMENDMENTS TO CLAIMS

This listing of claims will replace all prior version, and listings, of claims in the
application:

Listing of Claims

1. (original)   An apparatus for generating precision clock information, comprising:

a source of power line timing information;

a source of externally-generated precision time information;

a timing circuit coupled to the source of externally-generated precision time

information to receive a precision time signal therefrom, the timing circuit operable to

generate clock information based on the precision time signal, the timing circuit further

operable to generate clock information based on the power line timing information.

2. (original)   The apparatus of claim 1 wherein the timing circuit is operable to generate

clock information based on the precision time signal when the power line timing

information is unavailable.

3. (original)   The apparatus of claim 1 wherein the timing circuit is operable to generate

clock information based on the power line timing information when the precision time

signal is unavailable.

4. (currently amended)  The apparatus of claim 1 wherein the power line timing

information includes a pulse signal derived from power line signal signal.

5. (original)   The apparatus of claim 1 wherein the power line timing information includes a pulse signal derived from zero crossings of a power line signal.

6. (original)   The apparatus of claim 4 further comprising a delay coupled between the source of power line timing information and the timing circuit, the delay operable to synchronize the pulse signal with the precision time signal.

7. (original)   The apparatus of claim 1 further comprising a source of clocking signals operable to generate a clocking signal have a frequency exceeding a frequency of the precision time signal, and wherein the timing circuit further operable to generate the clock information based on the clocking signal.

8. (original)   The apparatus of claim 7 wherein:

the timing circuit further comprises an accumulator, the accumulator including a output, a first input, a second input, and a third input;

the accumulator increments a value stored therein based on the second input and the third input;

the accumulator is operable to receive a precision time pulse at the first input;

the accumulator is operable to generate a timing output signal at the output when the value exceeds a predetermined threshold; and

the accumulator is operable to generate a timing output signal at the output when the accumulator receives the precision time pulse.

3

9. (original)   A method for generating precision clock information, comprising:

a) receiving power line timing information;

b) receiving a precision time signal from a source of externally-generated time information;

c) generating clock information based on the precision time signal; and

d) generating clock information based on the power line timing information.

10. (original) The method of claim 9 wherein step c) further comprises generating clock information based on the precision time signal when the power line timing information is unavailable.

11. (original) The method of claim 10 wherein step d) further comprises generating clock information based on the power line timing information when the precision time signal is unavailable.

12. (original) The method of claim 9 wherein step d) further comprises generating clock information based on the power line timing information when the precision time signal is unavailable.

13. (original) The method of claim 9 wherein step a) further comprises receiving the power line timing information in the form of a pulse signal derived from a power line signal.

14. (original) The method of claim 9 wherein step a) further comprises receiving the power line timing information in the form of a pulse signal derived from zero crossings of a power line signal.

15. (original) The method of claim 12 further comprising a step of delaying the pulse signal to synchronize the pulse signal with the precision time signal.

16. (original) The method of claim 9 further comprising a step of receiving a clocking signal have a frequency exceeding a frequency of the precision time signal, and wherein step d) further comprising the step of generating the clock information based in part on the clocking signal.

17. (original) An electricity meter operable to perform obtain data related to energy consumption, the meter comprising;

a sensor circuit operable to generate voltage and current measurement signals;

a measurement circuit operable to generate energy consumption data from the voltage and current measurement signals;

a source of power line timing information;

a source of externally-generated precision time information;

a timing circuit coupled to the source of externally-generated precision time information to receive a precision time signal therefrom, the timing circuit operable to generate clock information based on the precision time signal, the timing circuit further operable to generate clock information based on the power line timing information;

a memory operable to store at least some energy consumption data and a time record associated therewith, the time record generated in part using the clock information.

18. (original) The apparatus of claim 17 wherein the timing circuit is operable to generate clock information based on the precision time signal when the power line timing information is unavailable.

19. (original) The apparatus of claim 17 wherein the timing circuit is operable to generate clock information based on the power line timing information when the precision time signal is unavailable.

20. (original) The apparatus of claim 17 wherein the power line timing information includes a pulse signal derived from a power line signal.

21.    The apparatus of claim 20 further comprising a delay coupled between the source of power line timing information and the timing circuit, the delay operable to synchronize the pulse signal with the precision time signal.

22.    The apparatus of claim 17 further comprising a source of clocking signals operable to generate a clocking signal have a frequency exceeding a frequency of the precision time signal, and wherein the timing circuit further operable to generate the clock information based on the clocking signal.